THE EXTENSION HORTICULTURIST

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A Happy and Prosperous New Year to every Horticultural worker in the United States. Just a glance over our shoulder in order to profit by the mistakes and the successes of the past and we must all move forward to the making and execution of plans for the new year before us. It is our aim to make our monthly visit through the pages of The Extension Horticulturist as suggestive and helpful as possible. The success of our undertaking will depend to a great degree upon your support and cooperation. If you have something particularly good in your methods do not fail to give it to us for passing on to others.

Office of Horticultural and Pomological Investigations
and States Relations Service Cooperating.
U. S. Department of Agriculture,
Washington, D. C.

Home Gardens Necessary for 1921.

There are approximately 6,000,000 farms in the United States and it is estimated that on 5,280,000 or 80% of these there is some semblance of a garden. On the remaining 20% of the farms no gardens are grown mainly because their owners don't believe in "puttering" with a garden and claim that the garden does not pay. The old contention that "it is more profitable to plant an acre more of corn, wheat or cotton and buy the garden vegetables" does not prove true because the vegetables can not be purchased, are not purchased and as a result of unbalanced diet the family is undernourished and usually a big doctor bill to pay, all for want of the fresh vegetables that could be grown on one-fourth of an acre.

Home vegetable gardens have improved the health and pocketbooks of thousands of families among industrial workers during the past three years and it is a lamentable fact that the farm garden is the most neglected of all, this being particularly true in the corn belt, the cotton belt and other sections where one-crop farming is largely practised. The farmer who grows a good vegetable and fruit garden, has a couple of good cows and a few pigs and chickens does not have to go far from his own door for the greater part of his living; he "lives at home and boards at the same place." Dollars and cents do not indicate the true value of fresh vegetables in the diet; only health and happiness indicate a true valuation.

City gardens should be encouraged in order to keep people employed and increase the food supply. Already the country is facing a serious condition of unemployment among industrial classes and it is desirable that thousands of families be induced to plant gardens in order to safeguard their own food supply.

Farm gardens need to be pushed in order that the farmers themselves may enjoy a better living and that the boys and girls may be attracted to farm life. Salt pork, sodden biscuits and a poor grade of cane syrup are a poor means of tying the affections of any boy or girl to the farm. Plenty of fresh vegetables, lucious fruits, white clover honey and good butter and milk come nearer insuring a "father to son" and "mother to daughter" partnership on the farm. A good vegetable garden on every farm should be the slogan for the winter and spring of 1921.

Abe Martin said "What a wonderful world this would be to live in if everybodys' liver was right." Fresh vegetables and the exercise acquired while working the garden are a liver tonic hard to beat.

There has been prepared in this office a series of garden outlines as suggestions for use in the preparation of seasonable articles for use in newspapers also for the preparation of circulars. These outlines will be sent to extension workers in the states who request them. A list of the topics covered in the outlines is attached.

Colony Gardens in Europe.

We are especially indebted to Mr. F. P. Lund, Specialist in the Office of Extension Work South for the following interesting article on the colony gardens of Denmark and other European countries. At the request of the French Government, Mr. Lund was sent to Europe for the season of 1919 to teach American methods of canning and otherwise conserving perishable foods. The results were so satisfactory that his services were again asked for during the past summer. While in Europe, Mr. Lund had a splendid opportunity to observe the methods used in connection with the organization and conduct of community gardens and his observations are of especial value in this country at present in dealing with the problem of establishing gardens for the use of industrial and professional people who live in and around cities. -- Editor.

" While gardening has been more general in the most of the European countries than in the United States, it has often proved very difficult for the men without capital to secure garden space in the densely populated districts or around the larger cities. The value of gardens has been recognized by both city and state governments, and about one hundred years ago the Danish Government gave orders that the cities of Denmark should furnish the poorer classes with free land for garden purposes. With the increased enlightenment and prosperity of the laboring classes, the furnishing of free garden space was looked upon as a kind of alms or charity, and other means for securing necessary gardens for the increased labor population of the cities had to be devised.

In 1884, Mr. Jorgen Barthelsen, now member of the upper house of the Danish Legislation, originated the plan of cooperative gardens, the so-called Colony Gardens. This movement quickly spread all over Denmark, and from there to the other European countries and even to the United States. A group of men interested in securing gardens form an association, which is legally incorporated. They secure a piece of land, either buying it or leasing it for a number of years. The land is generally situated close to the city (often belonging to the city) and readily accessible for the members of the association. It is surveyed and cut up in suitable lots, each generally containing three to four thousand square feet, necessary roads are laid out and graded, drainage is supplied, if needed; the whole piece is surrounded by fence and fences are also built along both sides of the roads. Water supply is provided, where it can be had, and the necessary mainpipes and hydrants are put in. The expenses of all these things are added to the cost or rent of the land, and is borne by all members of the colony. The garden plots are distributed by drawing lots, and there are regulations as to what material may be used for fences between lots. The regulations also provide rules for building of summerhouses on the lots, for disposal of weeds and waste products, etc., and for the order in the colony.

The size of the colonies vary according to the available land or according to the number of members joining. Hence there are often over 100 societies at one large city. Around many of the larger cities there are thousands of colony gardens, and they have proved a blessing for the people, both as to increasing food production and to become an important factor in

promoting the health of the population.

It pleased me on my recent trip through France, Luxembourg, Belgium, Holland, England and Denmark to see how universal this colony garden idea has become, and how land that was idle has now been made productive. Even the old moats that surround the city of Paris have been transformed into colony gardens, and it was interesting to see what splendid vegetables were raised there. No place, however, has this colony movement made greater progress than in Denmark, the country of its origin, and the colony gardens there have won favor among all classes of society. In Denmark these gardens are not only vegetable gardens, but each has also permanent fruit trees, lawn and summerhouse."

England Continues the War Garden Idea.

Land that was once the private vegetable garden of Queen Victoria and a part of the Palace Grounds in London was used during the war and has continued in use as home gardens for families. On his recent visit to London, Prof. L.C. Corbett found 6 or 8 acres of the Palace Grounds still being used as garden allotments. The same idea holds all over England and many acres of historic and valuable land have been devoted to cultivation as home gardens. These gardens are as a rule quite small, not more than four square rods, but on this small area is grown enough vegetables to supply the ordinary family. Prof. Corbett found very much the same condition in other of the European countries where small gardens are an important factor in preventing serious food shortage.

Why a Plan of Work.

What would you think of a man who started to build a fine house without first consulting an architect or drawing up plans and specifications? Doubtless you recall just such a monument to some display of poor business methods. If the building is to come up to our expectations we must have a clearly defined plan to guide us. We are just now laying the foundations for horticultural extension work in this country and it is important that the work be well done. We have one advantage over the builder for we can revise our plan each year but the important thing is to start on the right path.

Plans of work covering horticultural extension activities in a number of the states have been received in this office. To those who have not worked out a definite plan and schedule of dates, our suggestion would be that they do this at once, keeping in mind, however, the many contacts with other lines of work that may be formed. We find that in many cases those that are conducting work in horticulture know very little about what other branches of the extension division of the college are doing. Among the lines most intimately related to that of horticulture are marketing, farm management, agronomy, insect and disease control, rodent control, and general live stock raising. Many other important points of contact might be mentioned. It is needless to say that the boys' and girls' club work and the home demonstration work should always be considered in any plan for

horticultural extension work.

One weak point often found in horticultural extension work is the failure to provide a plan of work. The state specialist who undertakes and carries through two and not exceeding three definite well planned pieces of work will accomplish more in the long run than if he undertook to handle a larger number. It is also important that a definite dating schedule be made and adhered to in so far as weather conditions and other factors will permit. The attached condensed schedule for Indiana is a good example.

Keeping definite records is becoming more and more important as we go further in the work. By definite records we do not mean necessarily a record of miles traveled or consultations held with individuals, but records as to the organization of the work and definite results obtained. In view of the many changes that are taking place in the personnel of the extension forces, it is extremely desirable that office records be kept in such shape that anyone coming into the work and taking the place of another would be enabled to follow the adopted plan without serious loss of time. For this purpose a very simple system of card files by sections, counties, communities and individual cooperators seems to give the best results. The system used in the horticultural extension work in South Carolina, which has been mentioned before, has been still further simplified in that a card, suitable for use in the files, is carried in the field and on the return of the specialist from the field, these cards are placed in the files. This system keeps the status of each individual demonstrator strictly up to date.

The question as to when a piece of work may be considered complete and the record closed is a difficult one to determine. In general it may be stated that when a demonstrated practice has been accepted and put to profitable application throughout the community, the work of demonstrating that part may be considered finished.

Our great problem is to get from extension specialists in horticulture in the various states suitable material for incorporating in our annual report. The state workers have this material and if they realized how important this matter is from the standpoint of continuing the work they would I am sure give more attention to supplying us with suitable material for use in these reports.

Irish Potato Extension Activities.

The 1920 Irish potato activities of the Office of Horticultural and Pomological Investigations were largely confined to a continuation of those of the previous year. The seed potato improvement work consisting of a study of some of the best strains of each of the leading commercial varieties furnished even more interesting results than in 1919. Sufficient data has now been accumulated to justify the statement that not all supposedly good strains of a variety are equally productive. This is well illustrated in the case of the Triumph and the Green Mountain varieties in which a variation of over 100 bushels per acre was noted between the highest and lowest yielding strain. It would now appear as if the location and

dissemination of the best strains of each of the leading commercial varieties of potatoes offers the quickest and most efficient method of improving the quality of the potatoes grown and in addition of materially increasing the yield per acre. Seed potato improvement studies in 1920 were made on Aroostook Farm (a sub-station of the Maine Experiment Station), Presque Isle, Maine; The Spooner Branch Station (a sub-station of the Wisconsin Experiment Station) Spooner, Wisconsin; the North Central Experiment Farm (sub-station of the Minnesota Experiment Station), Grand Rapids, Minnesota; Osage, Iowa; Greeley, Colorado; Pullman, Washington; and Corvallis, Oregon. With the exception of Greeley, Colorado, the work was carried on in cooperation with the State Experiment Stations.

The Southern tests of Northern grown certified Triumph seed potatoes in comparison with locally purchased or locally grown were also continued. The tests were conducted at Baton Rouge and Calhoun, Louisiana, College Station and Troupe, Texas, Stillwater, Oklahoma, and Fayetteville, Arkansas. As in the case of the seed potato improvement work this line of investigation was carried on in cooperation with the State Experiment Stations in which the work was located.

The principal points of inquiry in this study is that of the relative value of certified seed over uncertified seed stock; the influence of locality upon the vigor of the seed stock; and the relative value of seed grown under irrigation as compared with dry land seed. In 1920 four lots of Wisconsin grown seed, 3 of Minnesota, and 3 each of dry land and irrigated seed stock from Western Nebraska were tested out at the points mentioned. While very interesting results were secured it is too early to attempt to draw any conclusions from the two years' trials. It is proposed to continue the work over a period of 5 years. The seedling studies were continued as in the past, some 5,000 new seedlings being produced from artificially crossed seed and approximately 500 of the older ones grown for further observation. In addition to this some 1,325 flowers were artificially pollinated resulting in 454 mature seed balls representing 43 parental combinations.

An extensive trip through New Brunswick and a hurried one to Prince Edward Island, Canada, was made for the purpose of locating mosaic free seed stock. Several fields of Green Mountain potatoes were noted in which it was not possible to detect a mosaic infected plant and arrangements were made to purchase some of it for trial on Aroostook Farm in 1921. The absence of mosaic disease in some of the New Brunswick and Prince Edward potato fields is thought to be partly due at least to the comparative freedom from plant lice of certain portions of these provinces, particularly the northern portion of New Brunswick bordering on the Bay of Chaleur.

Among the Extension Workers.

Prof. Close recently returned from a trip to Kansas, Nebraska and Iowa and has given us the following interesting notes.

"In Kansas Mr. L. C. Williams did fruit extension work during February and March then assisted with boys' and girls' club work until August 1st, since which time he has devoted full time to the fruit work. Pruning demonstrations were held in the spring and spraying started. A heavy freeze at Easter time destroyed fully two-thirds of the apple crop so spraying was not

pushed vigorously. About thirty one-acre home orchards were planted last spring, making a total of about sixty of these orchards now being in good condition. Boys' apple club work will be organized and pushed rapidly next spring.

In Nebraska, Mr. E. H. Hoppert conducts the fruit work and Mr. H. O. Werner the potato work. Pruning and spraying demonstrations were carried through but the Easter freeze and summer drought reduced the apple crop to about one-fifth of normal and that confined mainly to the best cared for orchards. The planting of three-fourth acre home orchards is an important line of work. These orchards include the small fruits and all tree fruits except peaches and quinces.

The potato work shows that seed without irrigation in western Nebraska is superior to that grown under irrigation and is giving fine results when planted in other parts of the state and in the Southern states. A potato demonstration car was run over the Burlington Railroad for two weeks. It contained type specimens of varieties, samples of potato diseases, charts showing spray schedules for controlling diseases and insects, models of storage cellars, etc. Meetings were held in towns where the car was exhibited, and potato culture, storage, etc., were discussed. Twenty potato storage cellars holding a total of about 80,000 bushels were built in 1920.

In Iowa the fruit extension work is done by Messrs. H. E. Nichols and W. J. Kocken, the vegetable garden work by Prof. C. V. Holsinger, the truck crop work by Prof. C. L. Fitch, and landscape work will be started by Prof. W.R. Sears in 1921.

Orchard and poultry cooperative demonstrations were given special attention in the winter and spring. There were four teams of two men each out on this work. In 80 counties they gave 292 demonstrations, attended by more than 6,400 people.

Summer demonstrations were given in 27 apple orchards containing 2,535 trees. The cost of spraying four times was 60 cents per tree and the average net value of crop per sprayed tree was $10.75 more than from check trees.

Community spraying of home orchards has been given impetus by the formation of "spray rings." From half a dozen to two dozen men make up a "ring" and power or hand spray outfit is purchased either jointly by all the members or by one or more of them. In 1919 there was only one "spray ring;" in 1920 there were 137 with 657 members in 26 counties. In Benton County there are 15 "spray rings" averaging 20 members each. The 300 orchards which were sprayed produced 30,000 bushels of apples at a total cost of $10,000.00, this includes cost of spray machinery, spray materials, etc. The average cost per tree was 80 cents.

Small fruit work is included with the garden work and covers city as well as country gardens. Much time is given to training garden leaders and to working with county club leaders. Demonstrations in pruning bush fruit and in the control of garden diseases and insects form a large part of the work. There was one boys' strawberry club and it was a complete success. Each boy started with 1,000 Dunlap plants last spring.

The seed potato work is giving fine results. In growing Early Ohio and

Irish Cobbler in southern Iowa, northern seed should be used each year. In northern Iowa if the local crop grown from northern seed is good and of good shape it may be used one year for seed, then northern seed must be used for the next crop. The gains in yield per acre from northern seed were as high as 73 bushels per acre. With Rural New Yorker it is advised to get one-tenth of the seed from the North each year and grow it locally for seed for the following crop. The gains per acre have been as much as 60 bushels.

Forty-three acres of cucumbers were used for demonstration purposes and portions were sprayed from one to five times to control striped beetles and aphids. Dry arsenate of lead 3 to 5 pounds to 50 gallons of water handled the beetles and nicotine sulphate 1 to 1,000 controlled the aphids. The spray materials were applied at a pressure of 150 pounds to the square inch.

In Kansas, Iowa, and Nebraska the fruit and vegetable extension men spend about six weeks each fall making exhibits and judging fruit or vegetables at the state, county, and other fairs.

Home Garden Series for 1921.

Home gardens as a factor in stabilizing the food supply.
Recreational and health promoting value of vegetable gardens.
Value of vegetables in the diet.
Economic value of vegetable gardens in meeting the family expense.
Making the home garden permanent.
Grow a winter garden where climate is suitable.
Start the Southern garden early.
Prepare for spring gardening during the winter.
Salad crops and how to grow them.
Importance of root crops.
Plan the garden on paper and order seeds early.
Does it pay to stake and prune tomatoes in the home garden?
Our humble servant - the tin can.
Starting early plants indoors.
Hotbeds and cold frames.
Fertilizers for the home garden.
Irrigation of the home garden.

Outlines, or the completed articles, on the above topics can be secured by those connected with horticultural extension work in the states by applying to this office.

W. R. Beattie,
Extension Horticulturist.

C. P. Close,
Extension Pomologist.

CALENDAR OF WORK, INDIANA.

SEASONS	DEMONSTRATIONS			
	Orchard	Landscape	Potato	Canning Crops.
SPRING	Planting including root and top pruning and spraying in old orchards	Each demonstration checked up. Materials ordered Resetting Mulching of shrubs.	Arranging for cooperators Examining seed stock and selecting same. Seed treatment. Green sprouting.	Growing plants. Making Bordeaux Spraying.
SUMMER	Spraying apple and peach orchards. Collecting results. Harvest data collected	Visits to demonstrations. Summer meetings	Cutting seed stock Planting seed plots Making Bordeaux Spraying Rogueing fields Summer field meetings. Selection seed stock. Storage of seed	Recommendations as to fertilizer Preparation and planting. Selection of seed plants Collecting and cleaning seed. Field Meetings.
FALL and Winter	Collecting results. Orchard tours. Arranging window displays. Meetings	Visits to demonstrations [illegible] Winter meetings.	Getting harvest data. Potato show Potato schools Winter meetings	Storing seed. Winter meetings at which best methods of culture for increased yields, will be developed.